JETCON

One-to-Many
I/O Converter

JetCon 6330
16-CH DI

JetCon 6350
12DI+4DO

Industrial Smart Ethernet I/O Converter

- Aluminum Rugged Enclosure with IP-31 Grade Protection
- Digital I/O to Ethernet Converter
- Support Modbus/TCP for SCADA / HMI Systems
- Peer to Peer Directly I/O Signaling
- Operating Temperature: -25 ~ 70°C

JetCon Series Industrial Media Converter

JetCon Series offers fast Ethernet to fiber converters and serial to fiber converters, enabling you to expand your network through fiber optic communications and/or serial fiber ring extending your network distance. JetCon can be configured in 2 different ways Switch Converter Mode or Pure Converter Mode.

Switching Converter Mode or Pure Converter Mode

The JetCon1301 can be used in two different modes- the switching converter mode and the pure converter mode. The store-and-forward technology is implemented in switching converter mode. It will filter out abnormal packets to maintain network efficiency and support the packet forwarding rate up to 148810 bps in full wire speed, packet length from 64 to 1522 bytes. In the pure converter mode, the JetCon1301 only converts signal between copper and fiber ports without any packet checking and operates in the speed of minimum latency of packet transfer.

When Configured as Switch Converter mode:
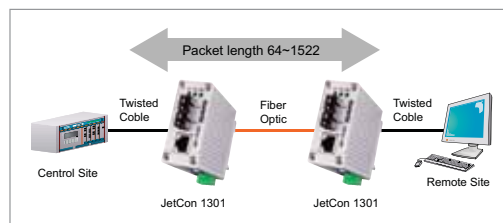
When Configured as Pure Converter mode:
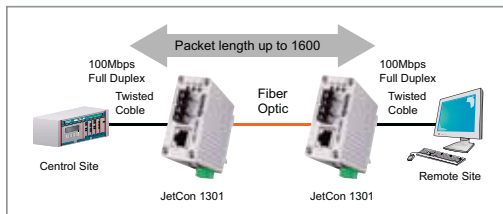
Traditionally a media converter is used for the electronic to optical signal conversion. Most media converters are not capable of handling all kinds of packet sizes. One major drawback is that some converters can't support 10/100Mbps auto negotiation and auto detection function for the cross-over or straight cable. The pure converter mode has the advantage that it supports extreme low transfer latency. Even packets with CRC errors and packet length is below 64 bytes. Some of the special devices will need the pure converter and some need it as a dumb unit without any feature.

JetCon 1301 can be configured as Switch Converter or Pure Converter mode by a DIP Switch. For CSMA/CD compliance, the UTP port supports 100Mbps Full Duplex while setting JetCon 1301 as the pure converter. Setting as 100Mbps half duplex mode, the available link distance will be 60 meters only. In the switch mode, it will not have this limitation. The link distance can reach 100 meters.

In the pure converter mode, the JetCon1301 will operate with the minimum latency, 1.6 microseconds. The 2 ports of JetCon1301 are inter-connected via MII signals. Therefore, the internal switch MAC and packet buffer are not used, and the packet length up is to 1600bytes.

The updated configuration will be available after power reset.
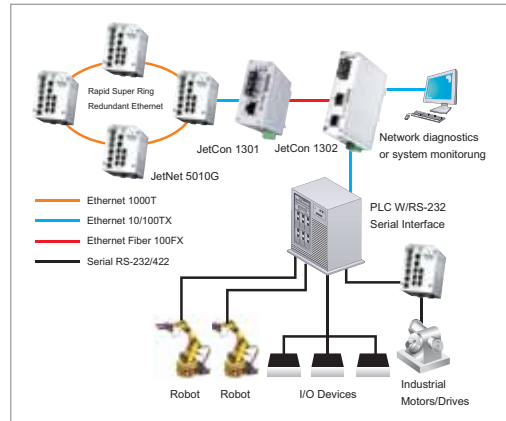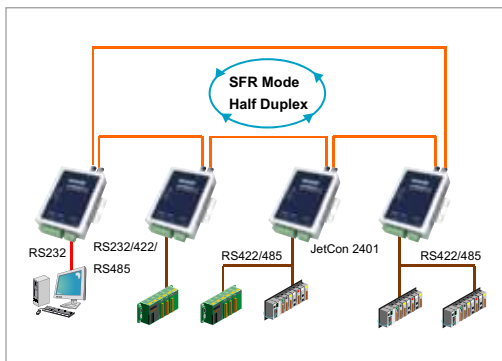
JetCon 1302 also a 3-port Switch

Providing two 10/100BaseTX ports and one 100Base-FX uplink, JetCon 1302 can be used as either a 3-port switch or RJ-45 to fiber optic converter for two devices. For easy diagnosis in the field, the JetCon 1302 provides one relay output to trigger alarm automatically if any port has errors.

To upgrade legacy equipments from 10Base-TX (10 Megabit) Ethernet devices to 100 Megabit Ethernet, the JetCon 1302 converter automatically detects speed and provides both 100Base-TX and 100Base-FX uplinks. Any industrial Ethernet device can also connect the JetCon 1302 to a high reliability fiber optic network in fulfilling the following applications, such as fiber enabling any Ethernet devices, linking 2 Ethernet devices to one fiber port, adding fiber link to any Ethernet network and using the second 100BaseTX port for network diagnostics.

Rapid Super Ring
Redundant Ethernet

JetCon 1301   JetCon 1302

JetNet 5010G

Network diagnostics
or system monitorung

Ethernet 1000T
Ethernet 10/100TX
Ethernet Fiber 100FX
Serial RS-232/422

PLC W/RS-232
Serial Interface

Robot   Robot   I/O Devices   Industrial
Motors/Drives

Serial Fiber Ring to Expand Connected Devices and Distance

SFR Mode
Half Duplex

RS232   RS232/422/   RS422/485   JetCon 2401   RS422/485
RS485

The JetCon 2401 series supports two transmission configurations, Peer to Peer in full duplex and Serial Fiber Ring (SFR) in half duplex. In a Peer-to-Peer configuration, two fibers are required between the two converters, one for data in each direction (RX and TX). To expand the number of connected serial devices, you can connect the fiber transmitter to the rest of the slaves and eventually back to the master node.

Applications

Power Plant Automation

Integrating Serial to Fiber Connections

The new trend of power plant automation is aiming to have good interoperability between a variety of electronic devices in the substation. When it comes to connect all equipments to each automated power system in one substation, it is not uncommon that different interfaces would be supplied by different manufacturers.

Difficulties then arise of integrating different systems with different interfaces. To solve this problem, the power company in Lithuania chose Korenix JetCon 2401 converters for its versatile interface 3-in-1 RS232/RS422/RS485 in one port, great compatibility with various serial equipment, and the stable performance of logic matrix inside instead of microprocessor. Furthermore, JetCon 2401 supports Fiber Optic which is widely used to isolate and prevent the electrical interference or overvoltage among different serial devices, such as remote terminal units (RTU) or radio modems making JetCon2401 a truly reliable solution under the industrially harsh environments.

Main Products

■ JetCon 2401 Industrial Serial to Fiber Media Converter

Why Korenix

■ **Flexibility** - to choose RS232/RS485/RS422 without changing equipment and possibility to choose ring topology.

■ **Reliable** - stable product which does not contain any microprocessor equipment inside (logic metrics)

■ **Connectivity** - possibilities to communicate with different manufacturers equipment.
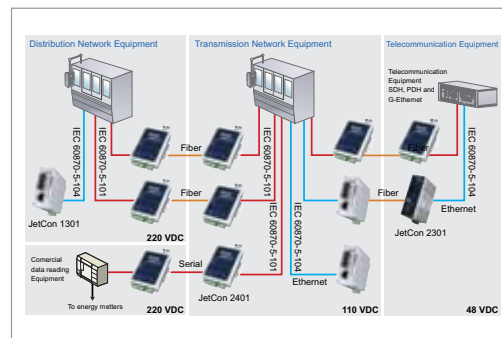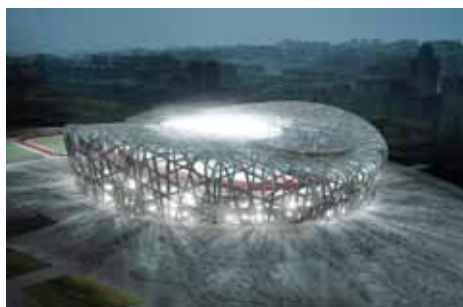

Mr. Raimundas Slavinskas
Aedilis, LTD (Lithuania)
Lithuania

Traffic Light Control

Reliable Connection with Enhanced Safety Protection

Beijing is China's second largest city, after Shanghai. It is a major transportation center, with dozens of railways, roads and motorways passing through the city. The city will host the 2008 Summer Olympics, to improve the heavy traffic during rush hour; public transportation and intelligent traffic system are often introduced in nearly all metropolitans. For intelligent traffic system, it requires Ethernet redundant mechanism, RS-232/422 to Ethernet converter to remote control traffic light and other traffic sign/display. Fiber converters becomes a must since the remote control traffic light maybe located tens of kilometers apart. In the diagram below, each circle represents 4 sets of traffic light from 4 intersections, and the traffic information is collected and transmitted back to the traffic control center instantly through the JetCon2301's Fiber connection. JetPort/JetCon Series is the best combination for the traffic control application operating under harsh environment. Connecting the JetPort 5601 to the traffic light controller and link to the JetNet 4508f through Ethernet then report those signals to the control center. By using this network architecture demonstrated in the picture, it provides Ethernet Ring redundant solution assuring a non-stop data transmitting to the traffic control system. Fiber module in single mode of the JetNet 4508f extends the network connectivity.

Main Products

■ JetNet 4508f Industrial 8-port Managed Fiber Ethernet Rail Switch
■ JetCon 2301 Industrial Fast Ethernet to Fiber Media Converter
■ JetPort 5601 Industrial 1-port RS-232/422/485 Redundant Serial Device Server

Why Korenix

■ **Reliable -** JetNet 4508f provides Super Ring technology, back up system recovery time less than 20ms. Dual Homing and Couple Ring
■ **Easy Maintenance** - JetCon 2301 features remote Link Loss Forwarding (LLF) technology which provides remote link down signal forwarding and acknowledging link events.
■ **3-in-1 Serial Configuration** - JetPort 5601 serial port supports RS-232/422, 2/4 wire RS485
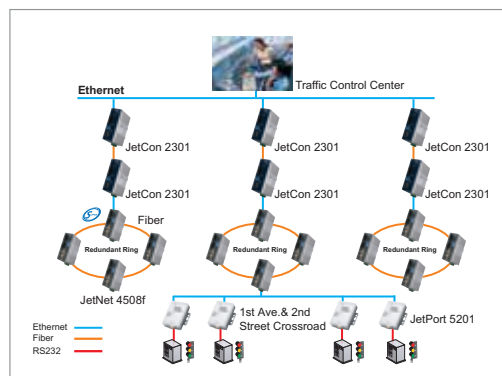
Miss Irene yiu
ICP ACQUIRE BEIJING INC.
China

Korenix Industrial Product Selection Guide - Media Converter

	JetCon 1301	JetCon 1302	JetCon 2301	JetCon 3401G	JetCon 3301	JetCon 1501
	Mini Media Converter	Compact Media Converter	Fast Media Converter	Gigabit Media Converter	Gigabit Media Converter	Fast Media Converter
Interface						
Number of Ports:10/100Base-TX	1	2	1	1000 Base-T	1000 Base-T	1
Number of Ports: PoE Injector						
Number of Ports:100Base-FX	1	1	1	Gigabit SFP	1000 Base-SX/LX	1
(Multi Mode Fiber)	JetCon 1301-m	JetCon 1302-m	JetCon 2301-m		JetCon 3301-m	JetCon 1501-m
(Single Mode Fiber)	JetCon 1301-s	JetCon 1302-s	JetCon 2301-s		JetCon 3301-s	JetCon 1501-s
Number of Serial Ports						
Power Terminal	DC18~32V AC18~27V	DC18~32V AC18~27V	DC24V*2 (12~48) -48(Option)	DC24V*2 (12~48) -48(Option)		
Power Jack			DC12~48V		DC5V	DC5V
Fault Relay Output		●	●	●		
1500VAC HIPOT	●	●	1200VAC HIPOT	1200VAC HIPOT	1200VAC HIPOT	1200VAC HIPOT
Mechanical						
Rigid Aluminum Case	●	●	●	●	●	●
Dimensions (unit=mm)	30 (W) x 70 (H) x89 (D)	30 (W) x 111.8 (H) x 98.2 (D)	53(W) x 135(H) x 105(D)	55 (W) x 120 (H) x 108 (D)	74 (W) x 22 (H) x 102 (D)	
Case Protection	IP 31	IP 31	IP 31	IP 31	IP 30	IP 30
Operating Temperature	-10~70°C	-10~70°C	-10~70°C	-25~70°C	0~60°C	0~60°C
DIN-Rail Kit	●	●	●	●		
Protocols						
Web-based Configuration						
Windows Utility						
Secured HTTPS,SSH						
Link Loss Forwarding	●		●	●	●	●
Switch Mode	●	●	●	●	●	●
Pure Converter Mode	●					
Redundant Dual Ethernet						
IGMP Snooping						
Quality of Service				●		
SMTP(e-mail warning)						
Syslog						
Certifications						
Regulatory Approvals:CE / FCC / UL	CE / FCC	CE / FCC	●	CE / FCC	CE / FCC	CE / FCC
RoHS / WEEE	●	●	●	●	●	●

	JetCon 6330	JetCon 6350	JetCon 2401	JetCon 2101 JetCon 2101i	JetCon 2101ir	JetCon 2204	JetCon 2208
	Ethernet I/O Converter		Fiber Media Converter	RS 232 to RS 422/485	RS 422/485	RS 232 to USB	RS 232 to USB
Interface							
Number of Ports:10/100Base-TX	1	1				USBx1	USBx1
Number of Ports: PoE Injector							
Number of Ports:100Base-FX			Serial Fiber				
(Multi Mode Fiber)			JetCon 2401-m				
(Single Mode Fiber)			JetCon 2401-s				
Number of Serial Ports			RS232/422/485	1xRS232 1xRS422/485	2xRS422/485	4xRS232	8xRS232
I/O Channel	16-CH DI Digital Input	12-CH DI 4-CH DO					
Power Terminal	DC10~30V 24V	DC10~30V 24V	DC12~48V AC18~32V	DC10~30V	DC10~30V		
Power Jack						DC5V	DC5V
Fault Relay Output							
1500VAC HIPOT							
Mechanical							
Rigid Aluminum Case	●	●	●				
Case Protection	IP 31	IP 31	IP 30	IP 30	IP 30	IP 30	IP 30
Dimensions (unit=mm)	120(W) x 55 (H) x 99 (D)		70(W) x 20 (H) x 100 (D)	70(W) x 10(H) x 20(D)		67(W) x 26(H) x 150(D)	
Operating Temperature	-25~70°C	-25~70°C	-20~70°C	-25~75°C	-25~75°C	0~55°C	0~55°C
DIN-Rail Kit	●	●	●	●	●		
Protocols							
Web-based Configuration	●	●					
Windows Utility	●	●					
Secured HTTPS,SSH							
Link Loss Forwarding							
Switch Mode							
Converter Mode							
Redundant Dual Ethernet							
IGMP Snooping							
Quality of Service							
SMTP(e-mail warning)							
Syslog							
Certifications							
Regulatory Approvals:CE / FCC / UL	CE / FCC	CE / FCC	CE / FCC	CE / FCC	CE / FCC	CE/FCC	CE / FCC
RoHS / WEEE	●	●	●	●	●	●	●

JetCon 3401G
Industrial Gigabit Ethernet Media Converter

- Converts 10/100/1000TX to Gigabit Fiber
- Flexible SFP Fiber transceiver design
- Auto Fault Detection and Alarm
- Fault Alert for port and power
- Two way Link loss forwarding
- Power redundancy with wide range input
- IP-31 grade protection with wide range operating temperature
- 1.5KV Hi-Pot testing passed

CE FC RoHS

Real Industrial Gigabit Ethernet Media Converter

The JetCon 3401G, industrial Gigabit Ethernet media converter, is equipped with a rugged aluminum alloy case with IP-31 grade ingress protection against damage by solid objects or dust. With excellent heat dissipation characteristics, the JetCon 3401G is capable of performing better than ordinary Gigabit Ethernet media converters which are enclosed by steel metal with various heat dissipation holes. Unlike those with a single power input, the real time redundant power backup on JetCon 3401G leads to the functionality of a real Industrial Gigabit Ethernet Media Converter with the non-stop transmission.

Flexible Optical Adopt Ability

As is the trend of fiber interfaces, JetCon 3401G implements one hot-swappable socket for a Small Form-factor Pluggable (SFP) fiber transceiver. To adopt different types of fiber optical cables or to enlarge fiber network, users are simply required to replace the ideal type of fiber transceiver to meet the specification of optical fiber cable and are capable to achieve the best inventory performance.

Activate Fault Alarm

Most of the Gigabit Ethernet Media converters feature the Link Loss Forwarding function (L.L.F.) in order to forward link status changes to alert remote or central management system. However, this is only for the cable events, not suited to industrial network applications. The JetCon 3401G provides an alarm relay to trigger out a real alarm signal for port or power events. The alarm mechanism can be configured by a simple DIP switch and trigger an external alarm equipment to inform maintenance I.T. engineers. It results in the maintenance time saving.

Excellent Traffic Handling

The JetCon 3401G performs graceful traffic management ability. The entire traffic will be forwarded with the packet precedence or priority IDand resulted in different service priorities.

In Addition, it also filters unnecessary broadcast packets by the broadcast storm control and drops abnormal packets to enlarge network performance.

Dimensions (Unit –mm)

www.korenix.com
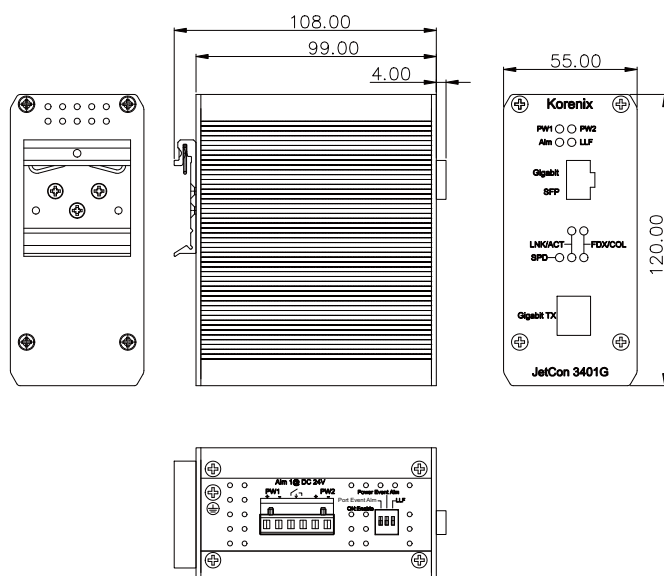
Specification

Technology

Standard:
IEEE802.3 10Base-T
IEEE802.3u 100Base-TX
IEEE802.3at 1000Base-T
IEEE802.3z Gigabit Ethernet Fiber
IEEE802.3x flow control and back-pressure.
IEEE802.1p Class of Service
IEEE802.1Q Quality of Service

Performance

Forwarding Technology: Store and Forward technology with 64 ~1536 bytes packet forwarding ability
System Throughput: 1.49Mpps
Packet buffer: 2.75Mbits
Link Loss Forwarding: Two-way loss-signature auto forwarding, configured by DIP switch
Event Alarm: Configurable relay alarm output for port or power events

Interface

Number of Ports: 1 x 10/100/1000 Base-TX with Auto MDI/MDI-X function, Auto-Negotiation
1 x SFP socket with hot-swappable function for Gigabit Ethernet SFP Transceiver
Connectors:
10/100/1000 Base-TX: RJ-45
SFP socket: support 3.3V Gigabit Ethernet 1.25Gbps Fiber Transceiver.
Terminal block: 4-Pin for redundant power input; 2-Pin for alarm relay output
Cables:
RJ-45 Connector: 4 pairs of Cat-5 UTP/STP cable with EIA/TIA 568B type conductor arrangement for 1000Base-T. Maximum link distance is 100meters
Configuration DIP Switch:
DIP 1: Port Event Alarm Enable/Disable
DIP 2: Power Event Alarm Enable/Disable
DIP 3: Link Loss Forwarding Enable/Disable
Diagnostic LED:
System: Power (Green) x2 ,Link Loss Forwarding (Red) x1, Alarm (Red) x1

RJ-45 port:
Speed (Green): On (1000Mbps Link), Blinking (100Mbps Link), Off (10Mbps Link or disconnect).
Link/Activity (Green): On (Link), Blinking (Activity)
Full Duplex/Collision (Yellow): On (link at full duplex mode), Blinking (Collision)
SFP port:
Link/Activity (Green): On (Link), Blinking (Activity)
Full Duplex/Collision (Yellow):On (link at full duplex mode), Blinking (Collision)

Power Requirements

System Power: DC 24V (12~48V) with polarity reverse correction and over current protection
Consumption: 8 Watts @ DC 24V(Maximum)

Mechanical

Installation: DIN-Rail mount
Case: Aluminum alloy metal case with grade 31 of ingress protection
Dimension:
120mm(H) x 55mm (W) x108 mm (D) (with DIN rail clip)
Weight:
g with package
g without package

Environmental

Operating Temperature: -25 ~70℃
Operating Humidity: 0% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 80℃
Storage Humidity: 0%~ 95% (non-condensing)

Regulatory Approvals

Hi-Pot: 1.5KV on port to port and port to power
EMI: FCC Class A, CE/EN55022
EMC immunity interface:
EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11
Safety: CE/EN60950
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Free Fall: IEC60068-2-32

Ordering Information

JetCon 3401G Industrial Gigabit Ethernet Media Converter
Includes:

- JetCon 3401G
- Quick Installation Guide

Optional Accessories

Gigabit Multi-Mode SFP Transceiver

Gigabit Single-Mode SFP Transceiver

Gigabit BIDI/WDM Single-Mode SFP Transceiver

JetCon 1301
Industrial Fast Ethernet to Fiber Media Converter

- One 10/100 TX port to One 100FX port media converter
- Dual Forwarding modes- Switch and Pure converter
- Supports 1.5KV Hi-PoT isolation protection
- Supports Auto MDI/MDI-X, Auto Negotiation
- Supports Multi-mode 2KM, Single-mode 30KM
- Auto Link Loss Forwarding(LLF) for fault detection
- Extreme Low Data Forwarding Latency- 1.6×10^{-6} Sec
- Wide range DC or AC Power input with DC polarity correction
- Compact Aluminum case with IP-31 grade protection
- -10~70°C operating temperature for hazardous environment applications

CE FC RoHS

Overview

JetCon1301 is a compact 1-port Fast Ethernet media converter designed to be the size of a cigarette box, which makes it the ideal model that would physically fit into a chassis with limited space, eg machinery control box and duct assembly room. It also supports switch forwarding mode with abnormal packet filtering and pure converter mode for extreme low latency requirement – Fieldbus and EtherCAT, which needs invariant forwarding latency in 64~1522 bytes packet length. For the easy maintenance and time-saving, JetCon1301 features remote Link Loss Forwarding technology which provides remote link down signal forwarding, acknowledging link events occurred on each end of JetCon1301 to main server. To activate forwarding mode and LLF functions, simply adjust

DIP switch then reset the converter, and the reconfigurations will be applied.

For the field site harsh environment installation such vibrating machinery or duct assembly room, JetCon1301 can be easily mounted directly onto DIN rail and powering with DC 18~32V, or AC 12~27V where DC input is not available. With the Ingress Protection grade 31 and rigid alloy case, JetCon1301 can survive and have excellent performance under -20~70°C temperature range, severe electromagnetic interference and outcoming vibration.

The highly MTBF- 500,000 hours, 5-year global warranty and endurable performance of JetCon 1301 series give you the reliable choices for hazardous applications.

Reliable Life Vibration & Life Shock Tests

To ensure the reliability networking devices operating in harsh environment successfully, Korenix JetCon 1301 series have passed the following life vibration and life shock tests while units in operating.

- IEC 61000-2-6 life vibration
  5~100Hz/Amplitude 1mm, 0.7G/ 90Min. X.Y.Z. 6 axis
  3~50Hz/Amplitude 3.5mm, 1.0G/ 90Min. X.Y.Z. 6 axis
- IEC 61000-2-27 life shock
  50G, 11ms duration, X,Y, Z, 3 shock/axes (Total 18 shocks)

Switching Converter Mode and Pure Converter Mode

The JetCon 1301 can be used in two different modes, switching converter mode and pure converter mode. The store-and-forward technology is implemented in switching converter mode. It will filter out abnormal packets to maintain network efficiency, and support the data forwarding rate up to 148810 bps in full wire speed, packet length from 64 to 1522 bytes. In the pure converter mode, the JetCon1301 only converts signal between copper and fiber port without any packet check and operates in the speed of minimum data forwarding latency.

Traditionally, media converter is used for the signal converter between electronic and optical. Most of media converters are not capable to handle all kinds of packet sizes. One major drawback is that can't support 10/100Mbps auto negotiation and auto detection function for the cross-over or straight cable. The pure converter mode has the advantage which it supports extreme low transfer latency. Even the packet-with CRC error, and packet length is below 64 bytes. Some of special devices will need pure converter and they need it do as a dumb without any features.

JetCon 1301 can be configured as Switch Converter or Pure Converter mode by a DIP Switch. For CSMA/CD compliance, the UTP port supports 100Mbps Full Duplex when set JetCon 1301 as pure converter. If set as 100Mbps half duplex mode, the available link distance will be 60 meters only. In the switch mode, it will not have this limitation. The link distance can be reached to 100 meters.

In pure converter mode, the JetCon1301 will operate with the minimum latency,1.6 micro second. The 2 ports of JetCon1301 is inter-connected via MII signals, therefore the internal switch MAC and packet buffer is not used and the packet length will not be limited and up to 1600bytes. The updated configuration will be available after power reset.

Configured as Switch Converter mode:
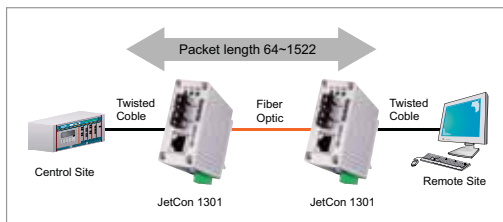

Configured as Pure Converter mode:
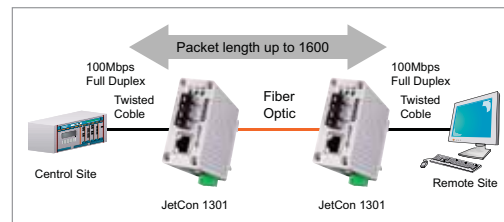
Link Loss Forwarding Technology

When using traditional fiber converters, users often encounter the following problem: a fiber converter acting like an ordinary unmanaged 2-port switch. When one of a fiber converter's ports fails (e.g. the TX port), the other one (e.g. FX port) would continue to receive data via the media (e.g. fiber), confusing the device on the other end of the media that the connection was still intact. But, by the time the disconnection was found, this error had caused a great amount of loss.

If a port had lost the connection for any reason, JetCon 1301 Industrial Ethernet Converter not only triggers the alarm system by relay output, but also activates the Link Loss Forwarding to shut down the other port; hence, allowing the device on the other end of the media to detect the disconnection. The administrator over the network can be informed of the disconnection immediately, and react promptly to the situation, greatly reducing loss caused by any link failures.
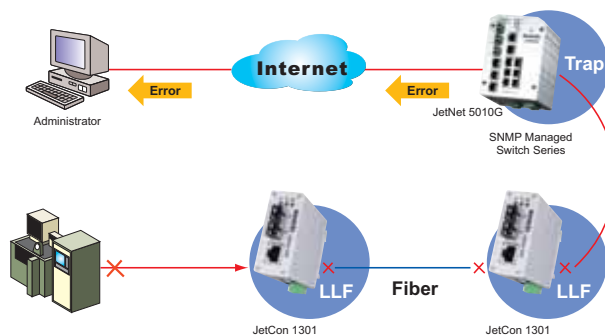
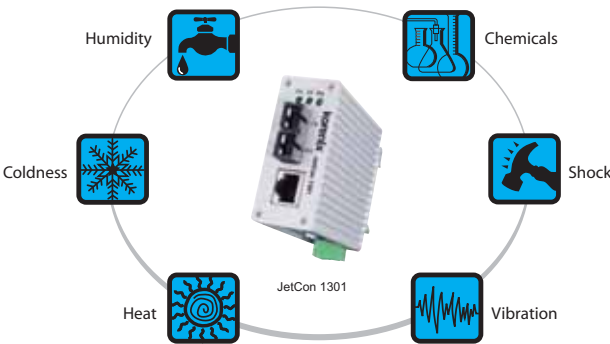## The Real Time Ethernet Solution- EtherCAT Test

JetCon 1301, an Industrial 10/100Base-TX to 100Base-FX Multi-Mode (JetCon1301-m)/ Single-Mode (JetCon1301-s) fiber converter, has been passed the system test of an open Real-Time Ethernet solution, EtherCAT. Cooperated with the test laboratory of Backhoff, Korenix sets a successful milestone to enable Real Time Ethernet-EtherCAT, the fastest "industrial Ethernet control in the world", over fiber optics.

For communication tasks, not only the defined latency (cycle time) is important, but the jitter also has to be limited. During the system test, there is no noticeable Jitter between two JetCon 1301 converters connected via fiber end whereas EtherCAT devices attached to the other Ethernet end. The system has been setup and tested to meet all criterions of EtherCAT protocol. For standard Ethernet jitter, specifications of only 100 µs to 3 ms are possible.
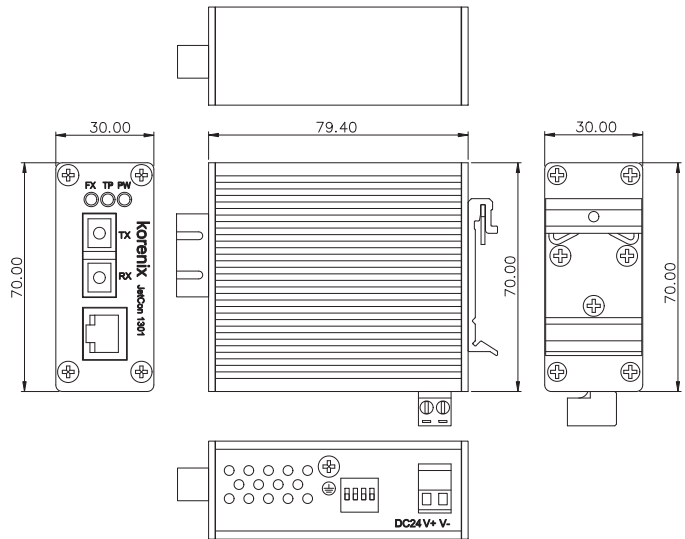
Reliable Mechanical Design

Industrial converters are often placed in harsh environments and required to run non-stop. The quality of industrial converter is constantly being tested by rugged conditions, such as high or low temperature conditions, impact, vibration, or corrosion. To cope with demanding industrial environments, the aluminum alloy case of JetCon Industrial Converter is rigid, shock-proof, and conforms to IP-31 design. In order to prevent power lines from damage caused by falling dust particles and water drops in an industrial environment, Korenix's engineers specially designed the terminal block for power and relay at the bottom of the unit, greatly reducing failures caused by this environment.

Humidity

Chemicals

Coldness

Shock

JetCon 1301

Heat

Vibration

Dimensions (Unit –mm)

30.00

79.40

30.00

70.00

FX TP PW

korenix JetCon 1301

TX

RX

70.00

70.00

DC24 V+ V-

JetCon

Specification

Technology
Standard: IEEE802.3 10Base-T,IEEE802.3u 100Base-TX IEEE802.3u 100Base-FX,IEEE802.3x flow control and back-pressure

Packet transfer mode:
Support Switch mode and Pure Converter mode. This feature is select by DIP-switch.
The Switch mode will begin to forward the received data only after it received the frame completely, the forwarding latency depends on the packet length and the packet length support 64 to 1600Bytes. The pure converter operating algorithm is different with switch mode; it will direct transfer Ethernet signal without any frame checking

Link Lose Forward: Enabled/Disabled by DIP-Switch 1

Hi-pot Testing: Passed AC1.5KV Hi-pot tesing on port-port, power-case and port-power

Interface
Number of Ports: 1 x 10/100 Base-TX with Auto MDI/MDI-X, Auto-Negotiation functions
1 x 100Base-FX

Connectors:
10/100 Base-TX: RJ-45
100Base-FX: Duplex SC for multi-mode or single-mode fiber
Power: 2-Pin Terminal Block

Cables:
RJ-45 connector: supports CAT-3, CAT-4, CAT-5 unshielded twisted pair or shielded twisted pair cable.
The link distance is maximum 100 meters
SC connector: supports multi-mode or single-mode optical fiber
Multi-mode fiber: 50/125um or 62.5/125um, max. distance 2KM
Single-mode fiber: 8/125um, 9/125um or 10/125 um, max distance 30KM

Fiber Transceiver:
JetCon1301-m, Multi-mode: 2KM max. distance
Link Distance: 2KM (Max.)
Wave-length: 1310nm
Min Tx Power:-20dBm
Max Tx Power:-14dBm
Min Rx Sensitivity:0dBm
Max Rx Sensitivity:-31dBm
Link budget:11dBm
JetCon1301-s, Single-mode: 30KM max. distance
Link Distance: 30KM (Max.)
Wave-length:1310nm

Min Tx Power:-15dBm
Max Tx Power:-8dBm
Min Rx Sensitivity:0dBm
Max Rx Sensitivity:-34dBm
Link budget:19dBm

Configuration DIP Switch:
DIP 1: Link loose forwarding Enable /Disable.
DIP 2: RJ-45 Auto-Negotiation/Forced 100Mbps Full Duplex
DIP 3: Fiber Full Duplex/Half Duplex
DIP 4: Switch/Pure Converter mode.

Diagnostic LED:
System: Power (Green)
RJ-45 port: Link (Green ON)/Activity (Green Blinking)
Fiber port: Link(Green ON)/Activity(Green Blinking)

Power Requirements
System Power: 2 pins terminal block for power input.DC 24V (18~32V) with polarity reverse protection.AC 18~27V, 47~63Hz
Power Consumption: 3.5 Watts @ DC 24V(Maximum)

Mechanical
Installation: DIN-Rail mount
Case: Aluminum metal case with IP31 grade case protection for drop-waterproof and dustproof.
Dimension:
70mm(H) x 30mm (W) x 89mm (D) (with DIN rail clip)
70mm(H) x 30mm (W) x 80mm (D) (without DIN rail clip)
Weight:
374g with package
292g without package

Environmental
Operating Temperature: -10 ~70℃
Operating Humidity: 0% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 80℃
Storage Humidity: 0%~ 95% (non-condensing)

Regulatory Approvals
Hi-Pot: AC1.5KV on port to port and port to power.
EMI: FCC Class A, CE/EN55022.
EMC immunity interface:
EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Free Fall: IEC60068-2-32
MTBF: 506,819 Hours, MIL-HDBK-217F GB standard
Warranty: 5 years

Ordering Information

JetCon 1301-m Industrial Fast Ethernet to Fiber Media Converter, SC, Multi-mode/2KM

JetCon 1301-s Industrial Fast Ethernet to Fiber Media Converter, SC, Single-mode/30KM

Includes:
- JetCon 1301-m / 1301-s
- Quick Installation Guide

JetCon 1302
Industrial 2-port Fast Ethernet to Fiber Media Converter

- Two 10/100 TX ports to One 100FX port media converter
- Supports 1.5KV Hi-PoT isolation protection
- Supports Auto MDI/MDI-X, Auto Negotiation
- Supports Multi-mode 2KM, Single-mode 30KM
- Dual modes for power input, AC18-27V/DC18-32V
- Fault Relay Output for port alarm
- Compact Aluminum case with IP-31 grade protection
- -10~70°C operating temperature for hazardous environment
- applications

CE FC RoHS

Overview

JetCon 1302 is not only a compact 2-port RJ45 to fiber media converter, but also a slim 3-port switch which is an ideal model that would physically fit in a network environment with limited space. The feature of fault relay alarm aims to inform you whenever there is any port link down. Just move up the DIP switch, the fault relay alarm will be functioning! Single-mode and Multi-mode fiber optic ports meet your needs for long distance transmission up to 30KM.

When you are ready to install JetCon 1302, you will find out that it can be easily wall mounted and be mounted directly on DIN rail. AC 18V~27V or DC 18V~32V is available for different operating environments. With IP 31 rigid and compact aluminum case, 1.5KV Hi-PoT isolation protection, CE/FCC regulatory approvals, and 5-year global warranty, JetCon 1302 series are your reliable choices for hazardous applications.

Dimensions (Unit –mm)
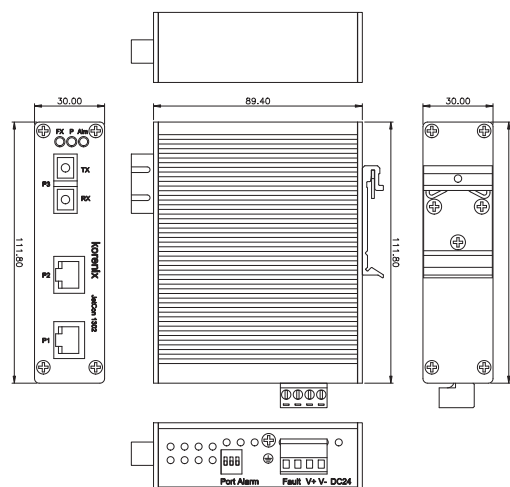
Specification

Technology
Standard:
IEEE802.3 10Base-T,IEEE802.3u 100Base-TX
IEEE802.3u 100Base-FX,IEEE802.3x flow control
Switch Technology: Store and forward technology and
with 3.2Gbps switch bandwidth
Aggregate System Throughput: 1.49Mpps

Interface
Number of Ports: 2 x 10/100 TX with Auto MDI/MDI-X,
Auto-Negotiation functions
1 x 100Base-FX
Connectors: 10/100 Base-TX: RJ-45
100Base-FX: Duplex SC
Power/Relay: 4-pin terminal block
Cables:
RJ-45 connector: supports CAT-3, CAT-4, CAT-5
unshielded twisted pair or shielded twisted pair cable.
The link distance is maximum 100 metersSC connector:
SC Connector:
Multi-mode fiber: 50/125um or 62.5/125um,
max. distance 2KM
Single-mode fiber: 8/125um, 9/125um or 10/125 um,
max. distance 30KM
Fiber Transceiver:
JetCon1302-m, Multi-mode: 2KM max. distance
Link Distance: 2KM (Max.)
Wave-length: 1310nm
Min Tx Power:-20dBm
Max Tx Power:-14dBm
Min Rx Sensitivity:0dBm
Max Rx Sensitivity:-31dBm
Link budget:11dBm
JetCon1302-s, Single-mode: 30KM max. distance
Link Distance: 30KM (Max.)
Wave-length:1310nm
Min Tx Power:-15dBm
Max Tx Power:-8dBm
Min Rx Sensitivity:0dBm
Max Rx Sensitivity:-34dBm
Link budget:19dBm
Port Alarm DIP Switch:
DIP 1~3: Enable or disable port link down
alarm for copper port 1/2, fiber port 3
On: Enable port link down alarm
Off: Disable port link down alarm
Diagnostic LED: System: Power (green), Fault (red)
RJ-45 port: 100Mbps Link (green on)/Activity(green
blinking)

10Mbps Link (yellow on)/Activity(yellow blinking)
Fiber port: Link/Activity(green)

Power Requirements
System Power: 2 pins terminal block for power input
DC 24V(18~32V)with reverse polarity protection
AC 18~27V, 47~63Hz
Power Consumption: 4.8Watts @ DC 24V

Mechanical
Installation: DIN-Rail mount
Casing: IP31 protection, aluminum case
Dimensions:
111.8mm(H) x 30mm (W) x 98.2mm (D) (with DIN rail clip)
111.8mm(H) x 30mm (W) x 89.4mm (D) (without DIN rail
clip)
Weight: 374g with package
292g without package

Environmental
Operating Temperature: -10 ~ 70℃
Operating Humidity: 0% ~ 95% (Non-condensing)
Storage Temperature: -40 ~ 80℃
Storage Humidity: 0%~ 95% non-condensing

Regulatory Approvals
EMI: FCC Class A, CE/EN55022 Class A
EMC Immunity Interface: EN61000-4-2: 6KV Contact, 8KV
Air, ESD contact indirect 6kvEN61000-4-3: 10V/m, 80 MHz
- 1 GHz, AM 1 KHz, 80% modulation,10V/m, 0.9 - 1.8 GHz,
FM 200 Hz, 50% modulation EN61000-4-4: PWR Supply
Lines:+/- 2KV,Communication Lines:+/- 2KV
EN61000-4-5: 2KV on power line (L-N), 4KV on
power line (L-PE, N-PE), 1.2uS Tr/ 50uS Th.
EN61000-4-6: PWR Supply Lines:10 Vrms, 150 KHz
- 80 MHz;AM 1 KHz,80% modulation; Communication
Lines:10 Vrms, 150 KHz - 80 MHz;AM 1 KHz, 80%
modulation;Relay:10 Vrms, 150 KHz - 80 MHz;AM 1 KHz,
80% modulation
EN61000-4-8: 50Hz ,3A/m
EN61000-4-11: 30% 10 ms, 60% 100 ms, > 95% 5000 ms
Safety: CE/EN60950
Shock: IEC60068-2-27 shock: 50G, 11ms, 4G, +/- X, +/- Y,
+/- Z
Free Fall: IEC60068-2-32 free fall:90 cm, 1 corner, 3 edges,
6 faces
Vibration: IEC60068-2-6 vibration: 1 mm, 2 Hz - 13.2 Hz,
90 min.; 0.7g, 13.2 Hz - 100 Hz, 90 min.; 3.5 mm, 3 Hz - 9
Hz, 10 cycles,
1 octave/min.; 1G, 9 Hz - 150 Hz, 10 cycles, 1 octave/min
MTBF: 632,171 Hours, MIL-HDBK-217F GB standard
Warranty: 5 years

Ordering Information

JetCon 1302-m Industrial 2-port Fast Ethernet to Fiber Media Converter, SC, Multi-mode/2KM

JetCon 1302-s Industrial 2-port Fast Ethernet to Fiber Media Converter, SC, Single-mode/30KM

Includes:

- JetCon 1302-m / 1302-s

- Quick Installation Guide

www.korenix.com

JetCon 2301
Industrial Fast Ethernet to Fiber Media Converter

- One port 10/100 TX to 100 FX media converter
- Link Loss Forwarding far-end fault detection technology
- System Fault Relay Output
- Supports 1.2KV Hi-PoT isolation protection
- Supports Multi-mode 2KM, Single-mode 30KM
- Power redundancy with wide range input, DC24V (12~48V)
- Reverse power polarity protection
- Aluminum case with IP-31 grade protection
- -10~70°C operating temperature for hazardous environment applications

CE FC c(UL)us LISTED RoHS

Overview

JetCon 2301 is a 1-port media converter qualified for extended distance transmission under harsh environment.

For the easy maintenance and time-saving, JetCon2301 features remote Link Loss Forwarding technology which provides remote link down signal forwarding, acknowledging link events occurred on each end of JetCon2301 to main server. To activate forwarding mode and LLF functions, simply adjust DIP switch then reset the converter, the reconfigurations will be applied. Single-mode and Multi-mode fiber optic ports meet your needs for long distance transmission up to 30KM.

When you are ready to install JetCon 2301, you will find out that it can be easily wall mounted and be mounted directly on DIN rail. JetCon 2301 has two DC24V inputs, and it is also compatible with range from DC12V~48V. Dual power inputs and built-in reverse polarity protection are designed as the redundant power system to ensure your power continuity. With IP 31 rigid aluminum case, 1.5KV Hi-PoT isolation protection, CE/FCC regulatory approvals, and 5-year global warranty, JetCon 2301 series are your reliable choices for hazardous applications.
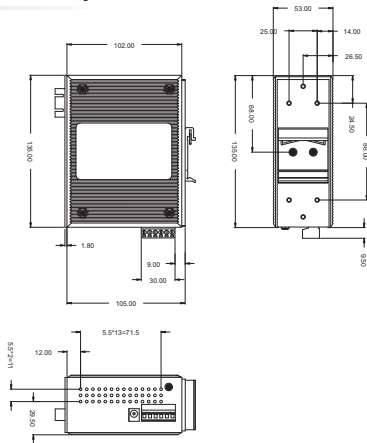
Industrial
PoE Switch

IP67/68
Ethernet Switch

Rackmount
Managed
Switch

Gigabit Switch

Redundant
Switch

Entry-Level
Switch

Networking
Computer

Communication
Computer

Ethernet
I/O Server

Serial Device
Server

Media
Converter

Multiport
Serial Card

SFP Module

Din Rail
Power Supply

Dimensions (Unit –mm)

Specification

Technology

Standard: IEEE802.3 10BASE-T
IEEE802.3u 100BASE-TX/100BASE-FX
IEEE802.3x Flow Control and Back pressure
Processing: Store and Forward switching architecture
Link Lose Forwarding: Tx to Fiber-If Tx port link breaks down, JetCon 2301 will force the fiber port to disconnect. Fiber to Tx-If fiber port link breaks down, JetCon 2301 will force the Tx port to disconnect.

Interface

Number of Ports: 1 x 10/100 Base-TX with Auto MDI/MDI-X and Auto Negotiation functions
1 x 100 Base-FX, supports Full/Half duplex and set by DIP Switch
Connector: 10/100 Base-TX: RJ-45
100 Base-FX: Duplex SC
Power: Embedded in 6-pin terminal block connector
Relay: Embedded in 6-pin terminal block connector
Core: RJ-45 connector: supports CAT-3, CAT-4, CAT-5 unshielded twisted pair or shielded twisted pair cable. The link distance is maximum 100 meters.
SC connector: supports multi-mode or single-mode optical fiber
Multi-mode fiber: 50/125um or 62.5/125um, max. distance 2KM
Single-mode fiber: 8/125um, 9/125um or 10/125 um, max. distance 30KM
Fiber Transceiver:
JetCon2301-m, Multi-mode: 2KM max. distance
Wave-length: 1310nm
Min Tx Power:-19dBm
Max Tx Power:-14dBm
Min. Rx Sensitivity:-14dBm
Max Rx Sensitivity:-31
Link budget:12dBm
JetCon2301-s, Single-mode: 30KM max. distance
Wave-length:1310nm
Max Tx Power:-8dBm
Min Tx Power:-15dBm
Max Rx Sensitivity:-34dBm
Min Rx Sensitivity: -8dBm

Link budget:19dBm
Configuration DIP Switch: DIP 1: Enabling Port Alarm (ON)/ Disabling Port Alarm (OFF)
DIP 2: Enabling LLF (ON)/ Disabling LLF (OFF)
DIP 3: Fiber Full-Duplex (ON)/ Fiber Half-Duplex (OFF)
DIP 4: TX port Auto-Negotiation (OFF) / 100Base-TX Full Duplex (ON)
Diagnostic LED: System: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow)
Fiber port: Link/Activity (Green), Full/Half Duplex (Yellow)
TX port: 100Mbps (Green), Link (Green), Full Duplex (Yellow)
LED Indicators: Power (Green), Power1 (Green), Power2 (Green), Fault (Orange)
Fiber: Link/Activity (Green), Half/Full Duplex (Green)
TX: 10/100 (Green), Link (Green), Full Duplex (Orange)
Alarm: Relay output for port break and power failure

Power Requirements

Power Supply: 24 VDC (12 to 48 VDC)
Reverse Polarity Protection: Present
Power Consumption: 4.6W

Mechanical

Hi-Pot: 1.2KV testing passed for port to port and port to power
Installation: DIN Rail or Wall Mount
Casing: IP31 protection, aluminum case
Dimensions: 54 mm (W) x 135 mm (H) x 105mm (D)

Environmental

Operating Temperature: -10~ 70°C (14 ~ 158°F)
Operating Humidity: 5% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 85°C (-40 ~ 185°F)

Regulatory Approvals

EMI: FCC Class A, EN55022 Class A
EMC: EN61000-4-2, EN61000-4-3, EN61000-4-4
EN61000-4-5, EN61000-4-6, EN61000-4-8, EN610004-11
Safety: UL, cUL, CE/EN60950
Shock: IEC 60068-2-27
Free fall: IEC 60068-2-32
Vibration: IEC 60068-2-6
MTBF: 225,855 Hours, MIL-HDBK-217F standard
Warranty: 5 years

Ordering Information

JetCon 2301-m Industrial Fast Ethernet to Fiber Media Converter,Multi-mode / 2KM

JetCon 2301-s Industrial Fast Ethernet to Fiber Media Converter,Single-mode / 30KM

Includes:

- JetCon 2301-m / 2310-s
- Wall mount kit
- Quick Installation Guide
- CD User manual

JetCon 1501
Fast Ethernet Media Converter

- One port compact 10/100 TX to 100FX media converter
- Link-Loss-Forwarding(LLF) far-end fault detection technology
- Compliance with IEEE 802.3/IEEE 802.3u standards/ IEEE 802.3x standards
- Supports 19" 3U 16 slots chassis mounting, Rack-1001/1002
- JetCon 1501C 10/100Base-TX to 100Base-FX, SC connector, Multi-mode 2KM
- JetCon 1501T 10/100Base-TX to 100Base-FX, ST connector, Multi-mode 2KM
- JetCon 1501C30 10/100Base-TX to 100Base-FX, SC connector, Single-mode 30KM
- JetCon 1501T30 10/100Base-TX to 100Base-FX, ST connector, Single-mode 30KM
- JetCon 1501C60 10/100Base-TX to 100Base-FX, SC connector, Single-mode 60KM
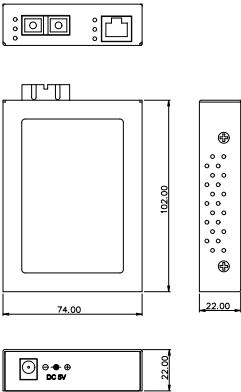- JetCon 1501C90 10/100Base-TX to 100Base-FX, SC connector, Single-mode 90KM

CE FC RoHS

Overview

The JetCon 1501 Fast Ethernet Media Converter series are designed to convert 10/100Base-TX signals to 100Base-FX signals. They greatly extend the connection range of Ethernet device to transmit & receive data via fiber cable without performance degradation.

JetCon 1501 series are using store-and-forward technology in switching converter mode. They will filter out abnormal packets to keep network performance,supporting the data forwarding rate up to 148810 pps in full wire speed. The JetCon 1501 series supports auto-negotiation & flow control for 10/100Mbps connection. With the Link Loss Forwarding technology, the JetCon1501 can fast detect the broken link on RJ-45 port and force the disconnection on the fiber port immediately. JetCon 1501 also features diagnostic LEDs, which displays power, link, speed and activity, allowing you to quickly detect and correct problems on the network.

Dimensions (Unit –mm)

102.00

74.00

22.00

22.00

DC 5V

Specification

Technology

Standard:

IEEE802.3 10Base-T

IEEE802.3u 100Base-TX

IEEE802.3u 100Base-FX

IEEE802.3x flow control

Interface

Number of Ports:

1 x 10/100 Base-TX with Auto MDI/MDI-X function,

1 x 100BaseFX

Connectors:

10/100 Base-TX: RJ-45

100Base-FX: SC or ST

Power plug

Cables:

RJ-45 connector: supports CAT-3,CAT-4,CAT-5 unshielded twisted pair

or shielded twisted pair cable. The link distance is maximum 100 meters.

SC connector: supports multi-mode or single-mode optical fiber

ST connector: supports multi-mode or single-mode optical fiber

Multi-mode fiber: 50/125um or 62.5/125um, max. distance 2 KM

Single-mode fiber: 9/125um or 10/125 um, max. distance 30/60/90 KM

Fiber Transceiver:

JetCon 1501-m, Multi-mode:2KM max. distance

Wave-length: 1310nm

Maximum TX power: -12dB

Minimum TX power: -22dB

Sensitivity: -31dB

Link Power Budget: 9dB

Single-mode: 30KM max. distance

Wave-length: 1310nm

Maximum TX power: -5dB

Minimum TX power: -13dB

Sensitivity: -32dB

Link Power Budget: 19dB

Single-mode: 60KM max. distance

Wave-length: 1310nm

Maximum TX power: 2dB

Minimum TX power: -3dB

Sensitivity: -32dB

Link Power Budget: 29dB

Single-mode: 90KM max. distance

Wave-length: 1310nm

Maximum TX power: 13dB

Minima TX power: 8dB

Sensitivity: -33dB

Link Power Budget: 41dB

Diagnostic LED:

System: Power

RJ-45 port: Link/Activity, Speed and FDX/Col

Fiber port: Link/Activity & FDX

Power Requirements

System Power: 5V DC 1.4A

Power Consumption: 3.4 Watts (Maximum)

Mechanical

Installation: Desktop or chassis mount

Case: Sheet metal case

Dimension: 102mm(H) x 74mm (W) x 22mm (L) with DIN

Weight:

230g without power adapter

Environmental

Operating Temperature: 0 ~60℃

Operating Humidity: 10% ~ 90% (non-condensing)

Storage Temperature: -20 ~ 70℃

Storage Humidity: 5%~ 90% (non-condensing)

Regulatory Approvals

EMI: FCC Class A, CE/EN55022

Warranty: 3 years

Ordering Information

JetCon 1501C, 10/100Base-TX to 100Base-FX Media Converter with SC connector, Multi-mode 2KM

JetCon 1501T, 10/100Base-TX to 100Base-FX Media Converter with ST connector, Multi-mode 2KM

JetCon 1501C30, 10/100Base-TX to 100Base-FX Media Converter with SC connector, Single-mode 30KM

JetCon 1501T30, 10/100Base-TX to 100Base-FX Media Converter with ST connector, Single-mode 30KM

JetCon 1501C60, 10/100Base-TX to 100Base-FX Media Converter with SC connector, Single-mode 60KM

JetCon 1501C90, 10/100Base-TX to 100Base-FX Media Converter with SC connector, Single-mode 90KM

Rack-1001:Industrial 19" 3U 16 slots Rackmount Chassis with one 60w power supply

Rack-1002:Industrial 19" 3U 16 slots Rackmount Chassis with two 60w power supplies

Includes:

- JetCon 1501
- Quick Installation Guide
- AC-DC Power Adapter

JetCon 3301
Gigabit Ethernet Media Converter

- One port 1000Base-T to Gigabit Fiber media converter
- Link-Loss-Forwarding(LLF) far-end fault detection technology
- Compliance with IEEE 802.3ab/IEEE 802.3z standards
- Supports 19" 3U 16 slots chassis mounting, Rack-1001/1002
- JetCon 3301C 1000Base-T to 1000Base-SX, SC connector, Multi-mode 550M
- JetCon 3301L 1000Base-T to 1000Base-SX, LC connector, Multi-mode 550M
- JetCon 3301C10 1000Base-T to 1000Base-LX, SC connector, Single-mode 10KM
- JetCon 3301C20 1000Base-T to 1000Base-LX, SC connector, Single-mode 20KM
- JetCon 3301L10 1000Base-T to 1000Base-LX, LC connector, Single-mode 10KM
- JetCon 3301L20 1000Base-T to 1000Base-LX, LC connector, Single-mode 20KM

RoHS

Overview

The JetCon 3301Gigabit Ethernet Media Converter series are designed to convert 1000Base-T signals to 1000Base-SX/LX signals, supporting the data forwarding rate up to 1488100 pps in Gigabit Ethernet speed. They greatly extend the connection range of Ethernet device to transmit & receive data via fiber cable without performance degradation.

The JetCon 3301 converter series supports jumbo packets up to 10KB, also supports auto-negotiation, flow control function both on RJ-45 copper port and Fiber port. They will filter out abnormal packets to keep network performance. With the Link Loss Forwarding technology, the JetCon 3301 can fast detect the broken link on RJ-45 port and force the disconnection on the fiber port immediately. The JetCon 3301 also features diagnostic LEDs, which displays power, link and activity, allowing you to quickly detect and correct problems on the network.

Dimensions (Unit –mm)

102.00 / 74.00 / 22.00 / 22.00 / DC 5V

Specification
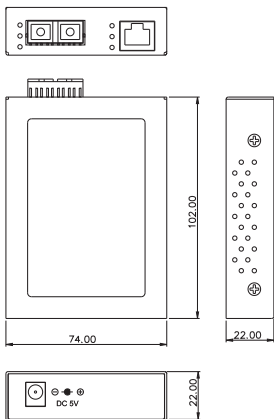
Technology
Standard:
IEEE802.3ab 1000Base-T
IEEE802.3z 1000Base-SX/LX

Interface
Number of Ports:
1 x 1000 Base-T with Auto MDI/MDI-X function,
1 x 1000Base-SX/LX
Connectors:
1000 Base-T: RJ-45
1000 Base-SX/LX: SC or LC
Power plug
Cables:
RJ-45 connector: supports CAT-3,CAT-4,CAT-5, 5e or 6 unshielded twisted pair
or shielded twisted pair cable. The link distance is maximum 100 meters.
SC connector: supports multi-mode or single-mode optical fiber.
LC connector: supports multi-mode or single-mode optical fiber.
Multi-mode fiber: 50/125um, max. distance 550 M, 60/125um, max. distance 220 M,
Single-mode fiber: 9/125um or 10/125 um, max. distance 10/20 KM
Fiber Transceiver:
JetCon 3301, Multi-mode:550M max. distance
Wave-length: 850nm
Maximum TX power: -4dB
Minimum TX power: -9dB
Sensitivity: -17dB
Link Power Budget: 8dB
Single-mode: 10KM max. distance

Wave-length: 1310nm
Maximum TX power: -3dB
Minimum TX power: -8dB
Sensitivity: -20dB
Link Power Budget: 12dB
Single-mode: 20KM max. distance
Wave-length: 1310nm
Maximum TX power: -2dB
Minimum TX power: -7dB
Sensitivity: -22dB
Link Power Budget: 15dB
Diagnostic LED:
System: Power
RJ-45 port: Link & TX LEDs
Fiber port: Link & RX LEDs

Power Requirements
System Power: 5V DC 1.4A
Power Consumption: 5.2 Watts (Maximum)

Mechanical
Installation: Desktop or chassis mount
Case: Sheet metal case
Dimension: 102mm(H) x 74mm (W) x 22mm (L) with DIN
Weight:
240g without power adapter

Environmental
Operating Temperature: 0 ~60℃
Operating Humidity: 10% ~ 90% (non-condensing)
Storage Temperature: -20 ~ 70℃
Storage Humidity: 5%~ 90% (non-condensing)

Regulatory Approvals
EMI: FCC Class A, CE/EN55022
Warranty: 3 years

Ordering Information

JetCon 3301C, 1000Base-T to 1000Base-SX Media Converter with SC connector, Multi-mode 550M

JetCon 3301L, 1000Base-T to 1000Base-SX Media Converter with LC connector, Multi-mode 550M

JetCon 3301C10, 1000Base-T to 1000Base-LX Media Converter with SC connector, Single-mode 10KM

JetCon 3301C20, 1000Base-T to 1000Base-LX Media Converter with SC connector, Single-mode 20KM

JetCon 3301L10, 1000Base-T to 1000Base-LX Media Converter with LC connector, Single-mode 10KM

JetCon 3301L20, 1000Base-T to 1000Base-LX Media Converter with LC connector, Single-mode 20KM

Rack-1001:Industrial 19" 3U 16 slots Rackmount Chassis with one 60w power supply

Rack-1002:Industrial 19" 3U 16 slots Rackmount Chassis with two 60w power supplies

Includes:

- JetCon 3301
- Quick Installation Guide
- AC-DC Power Adapter

JetCon 6300 Series
Industrial Smart Ethernet I/O Converter

CE FC RoHS

Common Key Feature

- Digital Input with DI and Event Counter Mode
- Digital Output with DO and Pulse Output mode
- Multi-form Peer to Peer communication between JetCon 6330 and JetCon 6350
- Smart logic rules
- Industrial Modbus/TCP protocol
- Windows Utility and Web display
- Built-in watchdog protects against system failure
- Sofe mode operation for network link lost
- Din-Rail Mount with Robust Aluminum case and IP31 protection

Overview

The JetCon 6300 series converts I/O signal to Ethernet messages and is equipped with one Ethernet port and multiple channels of Digital Input or mixed multiple channels of Digital Input and Output. The JetCon 6300 series provides digital input, event counter modes, digital output and pulse output modes. The flexible local logic rules and the Peer to Peer function can support users to configure point to point, point to multiple point or multiple to one operation. The JetCon 6300 series provides a Windows Utility, Web configuration and Industrial Modbus/TCP protocol for integration. JetCon 6300 is with existed HMI/SCADA. Also, the robust aluminum case has good heat dispersion and IP31 protection.

With the JetCon 6300, users can easily perform status monitoring and control the remote I/O devices.

Ethernet Based Block I/O Converter

The JetCon 6300 series is a standalone Ethernet I/O converter. It supports Din-Rail vertical mounting, where users can easily install the JetCon 6300 in the control box and construct the cables with the limited space. The JetCon 6300 series supports multiple channels of Digital Input and Digital Output. The RJ-45 Ethernet port allows users to configure the settings and the system maintenance, to poll the information/status, and to monitor I/O status & program logic rules and alarm events over network.

Industrial Modbus/TCP Compatibility

The JetCon 6300 series supports Modbus/TCP protocol, which is the most common protocol in communicating between the industrial electronic devices over TCP/IP. Modbus/TCP is complied the binary encoding of data and TCP/IP's error detection mechanism. Typical function codes are attached to the protocol addresses to identify the meanings of each tag. Modbus/TCP allows users to monitor and control the I/O status and settings for the connected devices. Thus, the HMI and SCADA applications can easily support users to integrate the JetCon devices.

Logic Condition&Go Rule

The JetCon 6350 supports simple logic rules, which allow users to activate the DO when the DI channels status changed. The logic rule is the typical IF and THEN mechanism, e.g., IF Condition_1 occurred (logic_Transmitter mode), THEN Action_1 activated (Logic_Receiver mode).

There are two logic modes, Logic_Transmitter or Logic_Receiver. The JetCon 6330 is a pure DI module. It supports Logic_Transmitter and monitor the DI status. The JetCon 6350 is a mixed DI/DO module, which can support both Transmitter and
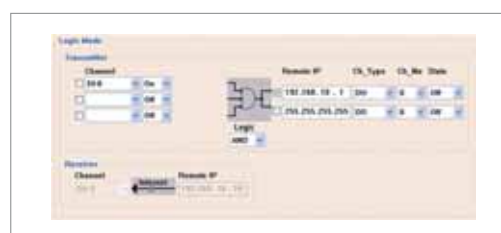
Receiver modes. It is also capable of monitoring DI and changes to the DO when receiving DI status changed events.

Peer to Peer Mode

The JetCon 6300 series supports the Peer to Peer communications over Ethernet. The JetCon 6330 and the JetCon 6350 can communicate directly without connecting to any host PC and extra applications. The rules can be activated by users configuring through the JetCon 6300 utility.

One or multiple IP addresses can be configured in the Transmitter mode. The event changed messages will be updated to the Receiver, that decides how to

activate the action. Under this mode, technicians can request less wiring and save more time to develop users' programs.

JetCon 6330
16-Ch DI Smart Ethernet I/O Converter

- 16-Ch Digital Input with DI and Event Counter mode
- Multi-form Peer to Peer operating, point to point, point to multiple point modes
- Smart logic rules
- Industrial Modbus/TCP protocol
- Windows Utility and Web display
- Built-in watchdog protects against system failure
- Sofe mode operation for network link lost
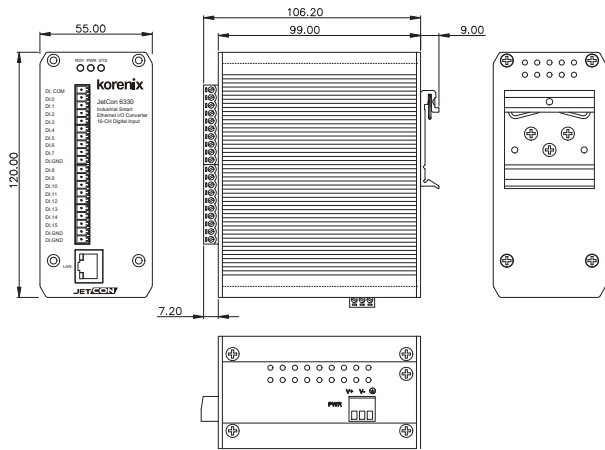- Din-Rail Mount with Robust Aluminum case and IP31 protection

RoHS

Overview

The JetCon 6330 is a smart I/O to Ethernet converter, equipped with 16 channels Digital Input. The JetCon 6330 provides digital input and the event counter for the input mode. The smart Peer to Peer function can support users to configure point to point, point to multiple points or multiple to one point operation. Thus, the JetCon 6330 can operate along with the remote JetCon 6350 directly.

The JetCon 6330 provides the Windows Utility and the Web interface for configuration. Industrial Modbus/TCP protocol is applied to integrating the JetCon 6300 series with existed HMI/SCADA. In addition, the robust aluminum case has good heat dispersing and IP31 protection. With the JetCon 6330 series, users can easily perform status monitoring and control the remote I/O devices.

Dimensions

Specification

System
CPU: 100MHZ, RISC-Based
SDRAM: 32K bytes
Flash ROM: 512K bytes
EEPROM: 2K bytes
Watchdog Timer: Embedded watchdog to auto reset system when system failure
LED:
PWR: Power Input plugged and On (Green)
RDY: System startup ready (Yellow)
STS: System fail (Red)

Network Interface
Ethernet: IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX
Connector: 1 * RJ-45, Auto MDI/MDI-X
Protection: Built-in 1.5 KV magnetic isolation protection
LED:
LAN Activity: Green On & Blinking
Network Speed: 10M (Yellow Off) /100M (Yellow ON)

Digital Input
Input Channels: 16 Channels
Input Type: source type
Input Mode: D/I or event counting
DC Input: 30V max
Threshold Voltage: 3.8V
Responding Time to Host PC Request: <2ms
Isolation Voltage: 3.75KVrms
Isolated Power supply
Power supply: 5V/200mA, power on/off with Configuration
Isolation Voltage: 3KVdc

Feature
Network Protocols: IP, TCP, UDP, HTTP, BOOTP, DHCP, Modbus/TCP
Configuration: Windows Utility, Web browser, Firmware update
Windows Utility: JetCon 6300 Commander

Logic Rules: Conditions of the DI/Counter values, Actions include Counter, Peer to Peer
Peer to Peer: One to one, multiple to one or one to multiple peers

Power Requirements
System Power: external unregulated +24V (10-30V)
Power Consumption: Max. 2W

Mechanical
Dimensions: 120 (H) x 55 (W) x 99 (D) mm
Mounting: Din-Rail
Material: Aluminum

Environmental
Operating Temperature: -25 ~ 70°C
Operating Humidity: 20 ~ 90% non-condensing
Storage Temperature: -40 ~ 85°C

Regulatory Approvals
EMI: FCC Class B;
CE/EN55022:2003, Class B;
CE/EN61000-3-2:2000 Harmonic test;
CE/EN61000-3-3:1995 Flicker test
EMS:
EN61000-4-2:2001, ESD test, Level 3(Contact +/- 6KV, Air +/- 8KV)
EN61000-4-3:2002, RS test, Level 3 (10V/m)
EN61000-4-4:2004, EFT test, Level 3 (Power supply +/- 2KV/5KHz, I/O 1KV/5KHz)
EN61000-4-5:2001, Surge test, Level 3 (L-N: +/- 2KV)
EN61000-4-6:2003, CS test, Level 3
Vibration: IEC60068-2-6
Shock: IEC60068-2-27
Free Fall: IEC60068-2-32
Warranty: 3 years

Ordering Information
JetCon 6330 16-CH DI Smart Ethernet I/O Converter

JetCon 6350
12-Ch DI + 4-CH DO Smart Ethernet I/O Converter

- 12-Ch Digital Input plus 4-Ch Digital Output
- Multi-form Peer to Peer modes, point to point, point to multiple points
- Smart logic rules
- Supports Event Counter and Pulse Output mode
- Industrial Modbus/TCP protocol
- Windows Utility and Web display
- Built-in watchdog protects against system failure
- Sofe mode operation for network link lost
- Din-Rail Mount with Robust Aluminum case and IP31 protection

CE FC RoHS

Overview

The JetCon 6350 is a smart I/O to Ethernet converter equipped with 12 channels of Digital Input and 4 channels of Digital Output. The JetCon 6350 provides the digital input, event counter modes, digital output and pulse output modes. The flexible local logic rules and the Peer to Peer function can support users to configure point to point, point to multiple point or multiple to one point operating.

The JetCon 6350 provides the Windows Utility, and Web Interface for configurations. Industrial Modbus/TCP protocol is applied to integrating JetCon with existed HMI/SCADA. In addition, the robust aluminum case has good heat dispersing and IP31 protection. With the JetCon 6350, users can easily perform status monitoring and control the remote I/O devices.
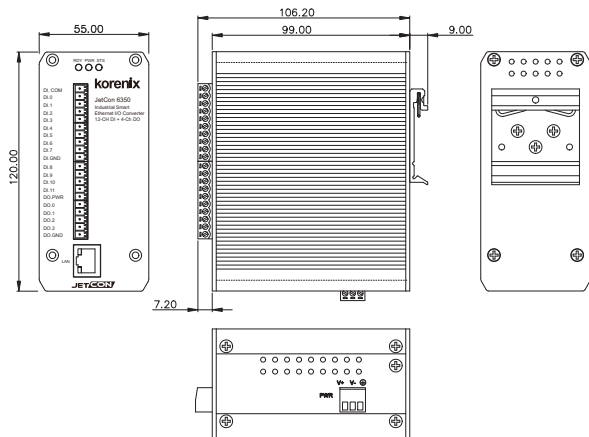
Dimensions

Industrial PoE Switch
IP67/68 Ethernet Switch
Rackmount Managed Switch
Gigabit Switch
Redundant Switch
Entry-Level Switch
Networking Computer
Communication Computer
Ethernet I/O Server
Serial Device Server
Media Converter
Multiport Serial Card
SFP Module
Din Rail Power Supply

Specification

System
CPU: 100MHZ, RISC-Based
SDRAM: 32K bytes
Flash ROM: 512K bytes
EEPROM: 2K bytes
Watchdog Timer: Embedded watchdog to auto reset system when system failure
LED:
PWR: Power Input plugged and On (Green)
RDY: System startup ready (Yellow)
STS: System fail (Red)

Network Interface
Ethernet: IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX
Connector: 1 * RJ-45, Auto MDI/MDI-X
Protection: Built-in 1.5 KV magnetic isolation protection
LED:
LAN Activity: Green On & Blinking
Network Speed: 10M (Yellow Off) /100M (Yellow ON)

Digital Input
Input Channels: 12 Channels
Input Type: source type
Input Mode: D/I or event counting
DC Input: 30V max
Threshold Voltage: 3.8V
Responding Time to Host PC Request: <2ms
Isolation Voltage: 3.75KVrms

Digital Output
Output Channels: 4 Channels
Output Type: FET output, sink type
Output Mode: Level or pulse output with programmable pulse width
Working Range: 5-30VDC
Driving Capacity: 200mA @23°C
Responding Time to Host PC Request: <2ms
Output Initial State: Programmable
Isolation Voltage: 3.75KVrms
Protection: over-current 400mA/channel trip @23°C
Isolated Power supply
Power supply: 5V/200mA, power on/off with Configuration
Isolation Voltage: 3KVdc

Feature
Network Protocols: IP, TCP, UDP, HTTP, BOOTP, DHCP, Modbus/TCP
Configuration: Network, I/O setting, Watchdog, Firmware update
Windows Utility: JetCon 6300 Commander
Logic Rules: Conditions of the DI/Counter values, Actions include DO/Pulse and Counter, Peer to peer
Peer to Peer: One to one, multiple to one or one to multiple peers

Power Requirements
System Power: external unregulated +24V (10-30V)
Power Consumption: Max. 2W

Mechanical
Dimensions: 120 (H) x 55 (W) x 99 (D) mm
Mounting: Din-Rail
Material: Aluminum

Environmental
Operating Temperature: -25 ~ 70°C
Operating Humidity: 20 ~ 90% non-condensing
Storage Temperature: -40 ~ 85°C

Regulatory Approvals
EMI: FCC Class B;
CE/EN55022:2003, Class B;
CE/EN61000-3-2:2000 Harmonic test;
CE/EN61000-3-3:1995 Flicker test
EMS: EN61000-4-2:2001, ESD test, Level 3(Contact +/- 6KV, Air +/- 8KV)
EN61000-4-3:2002, RS test, Level 3 (10V/m)
EN61000-4-4:2004, EFT test, Level 3 (Power supply +/- 2KV/5KHz, I/O 1KV/5KHz)
EN61000-4-5:2001, Surge test, Level 3 (L-N: +/- 2KV)
EN61000-4-6:2003, CS test, Level 3
Vibration: IEC60068-2-6
Shock: IEC60068-2-27
Free Fall: IEC60068-2-32
Warranty: 3 years

Ordering Information
JetCon 6350 12-Ch DI + 4-CH DO Smart Ethernet I/O Converter

JetCon 2401
Industrial Serial to Fiber Media Converter

- 3-in-1 RS232/422/485 to serial fiber media converter
- Easy DIP switch configuration to change serial modes without resetting converter
- Supports Multi-mode 5KM, Single-mode 40KM
- PTP or SFR transmission mode for serial fiber ring communication
- Auto Baud rate Detection, Selection and Direction
- High Level Immunity with 15KV ESD Protection
- Two-way 120 ohm Line Terminator Embedded
- Dual modes for power input, AC 24V(12~32V)/ DC 24V(12~48V)
- -20~70°C operating temperature for hazardous environment applications

CE FC RoHS

Overview

JetCon 2401 is a 1-port RS232/422/485 serial to fiber media converter with extended fiber transmission. Single-mode and Multi-mode fiber optic ports meet your needs for long distance transmission up to 40KM. JetCon 2401 will automatically detect the data baud rate of the connected full-duplex serial device, ranging from 300 to 921,600bps.By moving up the DIP switch, JetCon 2401 supports an auto setting function without system power reset to change serial interface, fiber wiring architecture and termination of receiver and transmission line. Also JetCon 2401 is specially designed for applications requiring good immunity of EMI/EMS such as power distribute substation, rail and traffic control signification systems under severe electromagnetic interference and wide temperature range from -20 ~ 70°C.

When you are ready to install JetCon 2401, you will find out that it can be easily wall mounted and be mounted directly on DIN rail. AC 24V(12~32V) or DC 24V(12~48V) is available for different operating environments. With IP 30 rigid aluminum case, stronger CE/FCC regulatory approvals, and 5-year global warranty, JetCon 2401 series are your reliable choices for hazardous applications.

Industrial
PoE Switch

IP67/68
Ethernet Switch

Rackmount
Managed
Switch

Gigabit Switch

Redundant
Switch

Entry-Level
Switch

Networking
Computer

Communication
Computer

Ethernet
I/O Server

Serial Device
Server

Media
Converter

Multiport
Serial Card

SFP Module

Din Rail
Power Supply

Application

The JetCon 2401 series supports two transmission configurations, Peer to Peer in full duplex and Serial Fiber Ring (SFR) in half duplex. In a Peer-to-Peer configuration, two fibers are required between the two converters, one for data in each direction (RX and TX). To expand the number of connected serial devices and connect the fiber transmitter to the rest of the slaves and eventually back to the master node.
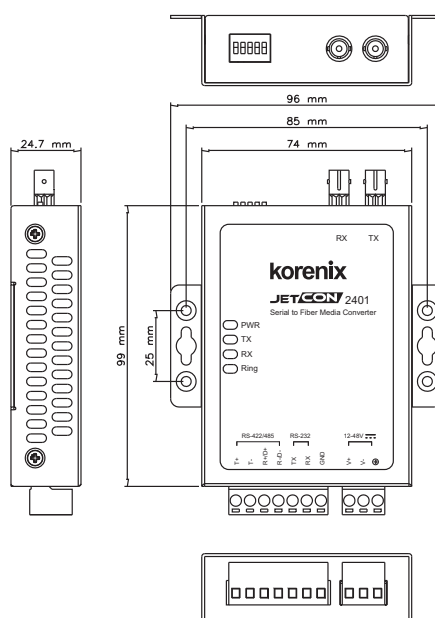
Peer to Peer Serial Communication (PTP)
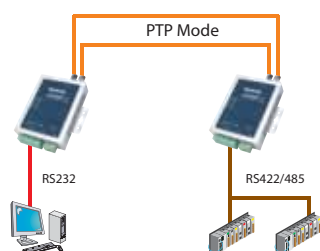
Serial Fiber Ring Communication (SFR)
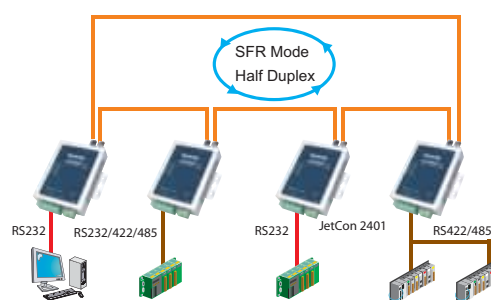
Dimensions (Unit –mm)

Specification

Technology

Standard:
EIA/TIA-232 RS-232 (ITU-T v.28)
EIA/TIA-422 RS-422 (ITU-T v.11)
EIA/TIA-485 RS-485 (ISO/IEC8284)

Serial Interface:
RS-232 2-wires, RS-422 4-wires, RS-485 2/4-wires

Architecture: PTP mode: Peer To Peer wiring in Full or Half Duplex
SFR mode: Serial Fiber Ring in Half Duplex

Interface

Number of Ports:
1 x RS-232/RS-485/RS-422 serial port
1 x Fiber Transmit port, 1 x Fiber receive port

Connectors:
Serial port: 7-pin removable terminal block
Fiber port: 1 x Duplex ST
Power input: 3-pin removable terminal block with earth ground

Transmit Baud Rate: 300bps to 921.6Kbps

Link distance:
RS-232: 50 feet
RS-422: 4000 feet
RS-485: 4000 feet
Multi-mode fiber: 50/125um or 62.5/125um, max. distance 5KM
Single-mode fiber: 8/125um, 9/125um max. distance 40KM

Fiber Transceiver:
JetCon2401-m, Multi-mode:
Distance:5KM @ 62.5/125um multi mode cable with 3dbm/km attenuation
Wave-length: 820nm
TX Power: -12dBm (Min) ~ -9dBm (Max)
RX Sensitivity: -28dBm (Min)
Link budget: 16dBm
JetCon2401-s, Single-mode:
Distance: 40KM@9/125um single mode cable with 0.35dbm/km attenuation
Wave-length:1310nm
TX Power: -9dBm (Min) ~-8dBm (Max)
RX Sensitivity: -27dBm (Min)
Link budget: 18dBm

Serial signal:
RS-232: TxD, RxD, Signal Ground.
RS-422: TxD+, TxD-, RxD+, RxD-, Signal Ground
RS-485 4 wires: TxD+, TxD-, RxD+, RxD-, Signal Ground.
RS-485 2 wires: Data+, Data-, Signal Ground.

Configuration DIP Switch:
Switch 1 and 2: serial interface mode select.
Switch 3: RX 120ohm terminator Disable (off)/Enable (on)
Switch 4: TX 120ohm terminator Disable (off)/Enable (on)
Switch 5: PTP mode (off) / SFR mode (on).

Diagnostic LED:
Power LED: Power 1 (Green)
TX (Green): Serial port is on transmitting data.
RX (Yellow): Serial port is on receiving data.
Ring mode (Green): Working on SFR (Serial Fiber Ring) mode.

Power Requirements

System Power: Positive or negative power system.
DC 24V (12~48V) with reverse polarity protection.
AC 24V (AC12~32V, 50/60Hz)
Provides 0.65A over current protection

Power Consumption: 1.5Watts @ 24V(Maximum)

Mechanical

Installation: DIN-Rail mount or desktop
Case: IP-30 grade aluminum metal case
Dimension: 24.7mm(H) x 96mm (W) x 99mm (L) with DIN
Weight:
0.24kg with package
0.135kg without package

Environmental

Operating Temperature: -20 ~70°C
Operating Humidity: 5% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 80°C
Storage Humidity: 5%~ 95% (non-condensing)

Regulatory Approvals

EMI: FCC Class B; CE/EN55022:2003,class B; CE/EN61000-3-2:2001 Harmonic Test CE/EN61000-3-3:1995 Flicker test

EMS:
EN61000-4-2:1998, ESD Testing, Level 3(Contact +/- 6KV, Air +/-8KV) with Criterion performance A), port to port (serial line, fiber port), port to power (serial to power, fiber to power)
EN61000-4-3:1998, RS testing, Level 3 (10V/m) with criterion performance A
EN61000-4-4:1995, EFT testing, Level 3 (Power supply:+/- 2kV/5Khz; I/O:+/- 1Kv,5Khz), with criterion performance A
EN61000-4-5:1995, Surge test, Level 3 (L-N: +/- 2Kv), with criterion performance A
EN61000-4-6:1996, CS testing, Level 3 ,with criterion performance A

Safety: CE/EN60950
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Free Fall: IEC60068-2-32
Warranty: 5 Years

Ordering Information

JetCon 2401-m Industrial Serial to Fiber Media Converter, ST, Multi-mode/5KM

JetCon 2401-s Industrial Serial to Fiber Media Converter, ST, Single-mode/40KM

Includes:

- JetCon 2401-m / 2401-s
- Quick Installation Guide

JetCon 2101 / 2101i
Industrial RS-232 to RS-422 / 485 Isolated Rail Converter

- Automatic RS-232 to RS-422/485 converter
- Automatic internal RS-422/485 data control
- 3000VDC isolation protection
- Transient suppression on RS-422/485 signal lines
- Speed up to 115.2 kbps

CE FC ☒ **RoHS**

JetCon 2101ir
Industrial RS-422 / 485 Isolated Rail Repeater

- Extends RS-422/485 network coverage
- Automatic internal RS-422/485 data control
- 3000VDC isolation protection
- Transient suppression on RS-422/485 signal lines
- Speed up to 115.2 kbps

CE FC ☒ **RoHS**

Overview

The standard RS-232 protocol has been widely used in most of industrial computer systems for serial port communication. However, it has its limitations in transmission speed, range, and networking capabilities. The RS-422 and RS-485 standard protocols, on the other hand, overcomes the limitations mentioned above by utilizing different voltage lines for data and control signals.

Specification

Interface
Input: RS-232
Output: RS-422/485 (jumber selectable)
Max. multidrop supported: 256 modules (without repeaters)
Isolation Protection:
JetCon 2101-3000V at RS-232 end
JetCon 2101i-3000V at RS-232/RS-422/485 end
RS-232 Signals: Tx, Rx, GND (Female DB9 connector)
RS-422 Signals: Tx+, Tx-, Rx+, Rx-
RS-485 Signals: Data+, Data-
Communication Distance:
2.1 km/9600 bps, 2.7 km/4800 bps, 3.6 km/2400 bps
Reverse Polarity Protection: Present

Performance
Speed: "AutoPro" auto-switches baud rates from 300 to 115200 bps

Power Requirements
Power Input: 10 to 30 VDC
Power Consumption: 2.2W (max.)

Mechanical
Dimensions: 70 mm (W) x 10 mm (H) x 20 mm (D)

Environmental
Operating Temperature: -25 ~ 75°C (-13 ~ 167°F)
Operating Humidity: 5% to 90% (non-condensing)
Storage Temperature: -40 ~ 80°C (-40 ~ 176°F)

Regulatory Approvals
EMI: FCC, CE
warranty: 3 years

Ordering Information

JetCon 2101 Industrial RS-232 to RS-422/485 Rail Converter
JetCon 2101i Industrial RS-232 to RS-422/485 Isolated Rail Converter
JetCon 2101ir Industrial RS-422/485 Isolated Rail Repeater
Includes:
- JetCon 2101/2101i/2101ir
- Quick Installation Guide/DIN Rail & Wall mount kit

www.korenix.com

JetCon 2204 / 2208
4-port / 8-port RS-232 to USB Media Converter

- Adds 4/8 RS-232 serial ports to PC or notebook over USB port
- Supports USB 2.0, and backwards compatible with USB 1.1/1.0
- Supports baud rate from 75 bps to 115.2 Kbps
- Supports Windows 98/Me/2000/XP/2003

CE FC RoHS

Overview

JetCon 2204/2208 is a 4/8-port RS-232 to USB converter, a cost-effective USB-to-Serial solution to help you extend COM ports on your PC. JetCon 2204/2208 gives you an easy plug-n-play solution with 4/8 independent RS-232 ports. The USB interface not only gives you the plug-n-play capability, but also allows you to hot swap without powering off your PC,USB 1.1 standard that is compatible with USB 2.0 and 1.0, you can be assured that JetCon 2204 / 2208 can work with any PC or device with USB interface. JetCon 2204 / 2208 also provides both USB bus and external power to give you flexible power supply connection. PC or device with USB interface.

Specification

Technology
Standard: USB 1.1, 1.0, USB 2.0 backwards compatible
Interface
USB
Connector: Type B
Speed: Full speed 12 Mbps
Serial
Interface: RS-232
Connector: Male DB62 x 1
RS-232 Signals: TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD
Serial Line Protection: 16KV ESD
Performance
Baud Rate: 75 bps to 115.2 Kbps
Data Bits: 5, 6, 7, 8
Parity: odd, even, none
Stop Bits: 1, 1.5, 2
Flow Control: XON/XOFF, RTS/CTS
FIFO: 512 bytes

Power Requirements
Input:
Bus Power 5 VDC
Ext. Power 5 VDC
Consumption:
Bus Power 250mA at 5 VDC
Ext. Power 250mA at 5 VDC
Operating Systems: Windows 98/Me/2000/XP/2003
Mechanical
Material: ABS
Dimensions: 150 x 67 x 26 mm (5.9 x 2.64 x 1.02 in)
Weight: 140g + 5g
Environmental
Operating Temperature: 0 ~ 55°C (32 ~ 131°F)
Operating Humidity: 5% to 95% RH
Storage Temperature: -20 ~ 85°C (-4 ~ 185°F)
Regulatory Approvals
EMI: FCC-Class B, CE- Class B
Warranty: 3 years

Ordering Information

JetCon 2204/2208 4/8-port RS-232 to USB Converter
Includes:

- JetCon 2204/2208
- Quick Installation Guide
- A to B USB Cable (1.8m)
- DIN Rail & Wall mount kit
- Dowmentation and Software CD-ROM